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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|---------------------------|---------------------------|------------------|
| 10/067,016 | 02/04/2002 | Bernhard H. Van Lengerich | 5352USA | 7141 |
| 30173 | 7590 | 04/05/2004 | EXAMINER | |
| GENERAL MILLS, INC. | | | PRATS, FRANCISCO CHANDLER | |
| P.O. BOX 1113 | | | ART UNIT | |
| MINNEAPOLIS, MN 55440 | | | PAPER NUMBER | |
| | | | 1651 | |

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/067,016

Applicant(s)

VAN LINGERICH ET AL.

Examiner

Francisco C Prats

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2-17-2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9,11-15,17-23 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-33 is/are allowed.
- 6) ☒ Claim(s) 1-9,11-15,17-23 and 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The amendment filed February 17, 2004, has been received and entered. The text of those sections of Title 35, U.S. Code, not included in this action can be found in a prior office action.

Claims 1-9, 11-15, 17-23 and 25-33 are pending and are examined on the merits.

Claim Rejections - 35 USC § 103

Claims 1-9, 11-15, 17-23 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhatti (J. Cereal Sci. 22:163-170 (1995)) in view of Kanauchi et al (Cereal Chem. 87(2):121-124 (2001)) and Bamforth et al (J. Inst. Brew. 107(4):235-240 (2001)).

As discussed above, Bhatti describes processes of preparing β -glucan from barley and oats, to yield a dry powder. Bhatti differs from the cited claims in failing to disclose the use of the claimed cellulase, hemicellulase, xylanase and pentosanase enzymes recited in the claims. However, each of Kanauchi and Bamforth discloses that the claimed enzymes improve the purification of glucan from the starting materials. See Kanauchi, e.g., in abstract ("[v]arious purified enzymes promote the solubilization of glucan from denatured and dehusked

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barley."). See also Bamforth, at abstract ("[t]he release of glucan is greatly enhanced if exogenous enzymes are added.") Thus, the artisan of ordinary skill at the time of applicant's invention practicing Bhatti's glucan purification process clearly would have been motivated by the Kanauchi/Bamforth disclosure of the advantages of exogenous enzyme addition to have added the enzymes of Kanauchi/Bamforth to the Bhatti process. A holding of obviousness over the cited process claims is therefore required. Moreover, in view of the fact that adding such enzymes would have yielded a product as recited in the product claims, those claims must also be held obvious.

Lastly, although none of the cited references discloses the precise amounts of material recited in applicant's claims 2, 3 and 12, the artisan of ordinary skill clearly would have recognized the concentration of starting material to be a result-effective parameter, based on the knowledge that a different starting concentration of grain material would have been expected to affect process parameters, including the ultimate result of the process. Thus, because the determination of suitable concentrations of starting material in Bhatti's process would have been a matter of routine optimization on the part of the artisan of ordinary skill, those claims reciting those concentrations must be considered obvious under § 103(a).

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Claim Rejections - 35 USC § 102/103

Claims 17-19 and 25-30 are rejected under 35 U.S.C.

§ 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Bhatti (J. Cereal Sci. 22:163-170 (1995)).

The reference discloses a product which appears to be identical to the presently claimed product, based on the fact that the prior art product is the identical compound, β -glucan, produced from the identical starting material, barley or oat grain, using the same basic series of steps as recited in the claims. Consequently, the claimed product appears to be anticipated by the reference.

However, even if the reference product and the claimed product are not one and the same and there is, in fact, no anticipation, the reference product would, nevertheless, have rendered the claimed product obvious to one of ordinary skill in the art at the time the claimed invention was made in view of the fact that any nominal difference between the claimed and prior art product would be the normal difference expected to occur between batches of material prepared from a starting material, cereal grain, which would itself have been expected to vary depending on growth conditions, etc. Thus the claimed

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invention as a whole was clearly *prima facie* obvious especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Regarding the propriety of this type of alternative rejection, note that MPEP . 2113 states that:

. . . [w]hen the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent and Trademark Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith. *In re Brown*, 59 CCPA 1063, 173 USPQ 685 (1972).

MPEP . 2113 also clearly states that

□The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature□ than when a product is claimed in the conventional fashion. *In re Fessmann*, 180 USPQ 324 (CCPA 1974)."

Response to Arguments

All of applicant's argument has been fully considered but is not persuasive of error. With respect to the obviousness rejection, applicant urges that the combination of references is based on hindsight and that none of the references provides any specific suggestion of using the claimed enzymes in processes of

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extracting beta-glucan as recited in the claims under examination. However, as discussed above, each of Kanauchi and Bamforth discloses that the claimed enzymes improve the purification of glucan from the starting materials. See Kanauchi, e.g., in abstract ("[v]arious purified enzymes promote the solubilization of glucan from denatured and dehusked barley."). See also Bamforth, at abstract ("[t]he release of glucan is greatly enhanced if exogenous enzymes are added.") Thus, as also discussed above, the artisan of ordinary skill at the time of applicant's invention practicing Bhatti's glucan purification process clearly would have been motivated by the Kanauchi/Bamforth disclosure of the advantages of exogenous enzyme addition to have added the enzymes of Kanauchi/Bamforth to the Bhatti process. Because the Kanauchi and Bamforth specifically describe the advantages of adding enzymes to processes of extracting beta-glucan from cereal, the holding of obviousness must be maintained.

Lastly, with respect to the 102/103 rejection over the product claims, it is noted that the claims as amended now require the use of the supplemental cell-wall degrading enzymes in the beta-glucan purification process. However, in view of the fact that Bhatti produces what is described as purified beta-glucan, the product-by-process claims still encompass

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Bhatty's product. That is, the fact that the supplemental enzymes make the purification process easier does not change the identity of the final purified product. Moreover, on the current record applicant has provided no evidence that the claimed product and the prior art product are any different. The 102/103 rejection must therefore also be maintained.

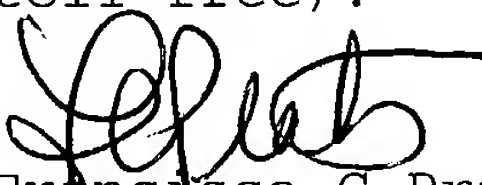
Claims 31-33 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C Prats whose telephone number is 571-272-0921. The examiner can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Francisco C Prats
Primary Examiner
Art Unit 1651

FCP